

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for controlling feeding of solid matter in a process which comprises at least one unloading point-~~(UP)~~ for the solid matter, at least one belt conveyor-~~(2, 2', 3, 5)~~ and at least one feeding point-~~(SP)~~ for the solid matter, the solid matter being unloaded in the unloading point-~~(UP)~~ from solid matter storage to a belt conveyor-~~(2, 2')~~, which is arranged to convey said solid matter either directly or via at least one other belt conveyor-~~(3, 5)~~ to the feeding point-~~(SP)~~, ~~characterized by comprising~~
 - determining a set value for athe thickness of a material bed formed of the solid matter to be unloaded to the belt conveyor-~~(2, 2')~~;
 - controlling the unloading of the solid matter to the belt conveyor-~~(2, 2')~~ in the unloading point-~~(UP)~~ in such a way that the thickness of the material bed follows said set value;
 - determining a material bed profile-~~(PROF)~~ expressing variation in the thickness of the material bed in athe longitudinal direction of the belt conveyor-~~(2, 2', 3, 5)~~;
 - determining athe material flow travelling on the belt conveyor-~~(2, 2', 3, 5)~~ on the basis of said profile-~~(PROF)~~; and
 - controlling in the feeding point-~~(SP)~~ anthe amount of the solid matter to be fed by controlling athe speed-~~(S)~~ of the belt conveyor-~~(2, 2', 3, 5)~~.
2. (Currently Amended) A method according to claim 1, ~~characterized by~~wherein feeding the solid matter in the feeding point-~~(SP)~~ to a solid matter intermediate storage, a storage tank or a solid matter treatment process, from the~~which~~ intermediate storage or the storage tank said solid matter is unloaded for further treatment, or said solid matter discharges

passively for further treatment, or in which the treatment process of said solid matter is treated further.

3. (Currently Amended) A method according to claim 1, ~~characterized~~ bywherein the thickness of the material bed formed of the solid matter being ~~at~~ the mass of ~~the~~ solid matter per length unit of the belt conveyor ~~(2, 2', 3, 5)~~, ~~a~~ the volume of ~~the~~ solid matter per length unit of the belt conveyor ~~(2, 2', 3, 5)~~ or ~~a~~ the cross-sectional area of the material bed formed of the solid matter.

4. (Currently Amended) A method according to claim 1, ~~characterized~~ bywherein determining an amount target ~~(CU_{SP})~~ for the solid matter to be fed to ~~at~~ the intermediate storage, a storage tank or a treatment process on the basis of ~~an~~ the amount of the solid matter discharged from the intermediate storage or ~~an~~ the amount of the solid matter treated in the treatment process;

controlling the amount of the solid matter to be fed in the feeding point ~~(SP)~~ on the basis of the amount target for the solid matter by adjusting the speed ~~(S)~~ of the belt conveyor ~~(2, 2', 3, 5)~~ on the basis of the amount target ~~(CU_{SP})~~ for the solid matter; and

controlling ~~an~~ the unloading speed ~~(SU)~~ of the solid matter unloaded to the belt conveyor ~~(2, 2')~~ in the unloading point ~~(UP)~~ on the basis of the speed ~~(S)~~ of the belt conveyor ~~(2, 2')~~ in such a way that the thickness of the material bed formed of the solid matter unloaded to the belt conveyor ~~(2, 2')~~ follows the set value set for the material bed thickness.

5. (Currently Amended) A method according to claim 1, ~~characterized~~ bywherein the set value of the thickness of the material bed of the solid matter unloaded to the belt conveyor ~~(2, 2')~~ being a permanently fixed constant value.

6. (Currently Amended) A method according to claim 1, ~~characterized~~ bywherein defining the ~~a~~ material bed-profile ~~(PROF)~~ expressing variation in the thickness of

the material bed of the solid matter on the belt conveyor ~~(2, 2', 3, 5)~~ in the longitudinal direction of the belt conveyor ~~(2, 2', 3, 5)~~ on the basis of the speed ~~(S)~~ of the belt conveyor ~~(2, 2', 3, 5)~~ and at the speed ~~(SU)~~ of at the unloader ~~(1, 1')~~.

7. (Currently Amended) A method according to claim 6, ~~characterized~~ by wherein defining a variable ~~(M_{CU}, M_E)~~ expressing at the weight of the solid matter on the belt conveyor ~~(2, 2', 3, 5)~~; and updating the profile ~~(PROF)~~ of the material bed formed of the solid matter at a particular point of the belt conveyor ~~(2, 2', 3, 5)~~ on the basis of the variable ~~(M_{CU}, M_E)~~ expressing the weight of the solid matter on the belt conveyor.

8. (Currently Amended) A method according to claim 6, ~~characterized~~ by wherein combining solid matter kind and/or grade information with the ~~material bed profile~~ ~~(PROF)~~ expressing variation in the thickness of the material bed of the solid matter on the belt conveyor ~~(2, 2', 3, 5)~~ in the longitudinal direction of the belt conveyor ~~(2, 2', 3, 5)~~.

9. (Currently Amended) A method according to claim 1, ~~characterized~~ by wherein the solid matter being of chips and at the intermediate storage being a chip silo ~~(6)~~.

10. (Currently Amended) A method according to claim 1, ~~characterized~~ by wherein the solid matter being solid fuel and at the solid matter treating process being a power boiler, where the solid matter is combusted for producing energy.

11. (Currently Amended) A method according to claim 1, ~~characterized~~ by wherein the solid matter being of rock, concrete and/or asphalt and at the solid matter treating process being a crushing, screening and/or mixing process.

12. (Currently Amended) An apparatus for controlling feeding of solid matter in a process which comprises at least one unloading point ~~(UP)~~ for the solid matter, at least one belt conveyor ~~(2, 2', 3, 5)~~ and at least one feeding point ~~(SP)~~ for the solid matter, the solid matter being arranged to be unloaded in the unloading point ~~(UP)~~ from solid matter storage to a belt conveyor ~~(2, 2')~~, which is arranged to convey said solid matter either directly or via at

least one other belt conveyor (~~3, 5~~) to the feeding point (~~SP~~), ~~characterized in that~~ wherein the apparatus is arranged

——to determine a set value for the thickness of a material bed formed of the solid matter to be unloaded to the belt conveyor (~~2, 2'~~);

——to control the unloading of the solid matter to the belt conveyor (~~2, 2'~~) in the unloading point (~~UP~~) in such a way that the thickness of the material bed follows said set value;

——to determine a material bed profile (~~PROF~~) expressing variation in the thickness of the material bed in the longitudinal direction of the belt conveyor (~~2, 2', 3, 5~~);

——to determine the material flow travelling on the belt conveyor (~~2, 2', 3, 5~~) on the basis of said profile (~~PROF~~); and

——to control the amount of the solid matter to be fed in the feeding point (~~SP~~) by controlling the speed (~~S~~) of the belt conveyor (~~2, 2', 3, 5~~).

13. (Currently Amended) An apparatus according to claim 12, ~~characterized in that~~ wherein in the feeding point (~~SP~~) the solid matter is arranged to be fed to a solid matter intermediate storage, a storage tank or a solid matter treatment process, from the ~~which~~ intermediate storage said solid matter is arranged to be unloaded or said solid matter is arranged to discharge passively for further treatment, or in the ~~which~~ treatment process of said solid matter is arranged to be treated further.

14. (Currently Amended) An apparatus according to claim 12, ~~characterized in that~~ wherein the thickness of the material bed formed of the solid matter is the mass of the solid matter per length unit of the conveyor (~~2, 2', 3, 5~~), the volume of the solid matter per length unit of the belt conveyor (~~2, 2', 3, 5~~) or the area of the cross-section of the material bed formed of the solid matter.

15. (Currently Amended) An apparatus according to claim 12, ~~characterized in that~~wherein the apparatus is arranged to determine an amount target-~~(CU_{SP})~~ for the solid matter to be fed to ~~at~~the intermediate storage or ~~a~~treating process on the basis of ~~an~~the amount of ~~the~~ solid matter exiting from the intermediate storage or storage tank or ~~an~~the amount of ~~the~~ solid matter treated in the treatment process;

the apparatus is arranged to control the amount of solid matter to be fed in the feeding point-~~(SP)~~ by adjusting the speed-~~(S)~~ of the belt conveyor-~~(2, 2', 3, 5)~~ on the basis of the amount target-~~(CU_{SP})~~ for the solid matter; and that

the apparatus is arranged to control ~~at~~the unloading speed-~~(SU)~~ of the solid matter unloaded to the belt conveyor-~~(2, 2')~~ in the unloading point-~~(UP)~~ on the basis of the speed-~~(S)~~ of the belt conveyor-~~(2, 2')~~ in such a way that the thickness of the material bed formed of the solid matter unloaded to the belt conveyor-~~(2, 2')~~ follows the set value set for the thickness of the material bed.

16. (Currently Amended) An apparatus according to claim 12, ~~characterized in that~~wherein the set value of the thickness of the material bed of the solid matter unloaded to the belt conveyor-~~(2, 2')~~ is a permanently fixed constant value.

17. (Currently Amended) An apparatus according to claim 12, ~~characterized in that~~wherein the apparatus is further arranged to define ~~the~~a material bed profile (~~PROF~~) expressing variation in the thickness of the material bed of the solid matter on the belt conveyor ~~(2, 2', 3, 5)~~ in the longitudinal direction of the belt conveyor-~~(2, 2', 3, 5)~~ on the basis of the speed-~~(S)~~ of the belt conveyor-~~(2, 2', 3, 5)~~ and ~~at~~the speed-~~(SU)~~ of ~~an~~the unloader ~~(1, 1')~~.

18. (Currently Amended) An apparatus according to claim 17, ~~characterized in that~~wherein the apparatus determines ~~comprises means for determining~~ a variable-~~(M_C, M_{CU})~~ expressing ~~at~~the weight of the solid matter on the belt conveyor-~~(2, 2', 3, 5)~~; and that the

apparatus is arranged to update the profile (~~PROF~~) of the material bed of the solid matter being at a given point of the belt conveyor (~~2, 2', 3, 5~~) on the basis of the variable (~~M_G, M_{CU}~~) expressing the weight of the solid matter on the belt conveyor (~~2, 2', 3, 5~~).

19. (Currently Amended) An apparatus according to claim 17, ~~characterized in that~~ wherein the apparatus is arranged to combine solid matter kind and/or grade information with the ~~material bed~~ profile (~~PROF~~) expressing variation in the thickness of the material bed of the solid matter on the belt conveyor (~~2, 2', 3, 5~~).

20. (Currently Amended) An apparatus according to claim 12, ~~characterized in that~~ wherein the solid matter is formed of chips and that ~~at~~ the intermediate storage is a chip silo (~~6~~).

21. (Currently Amended) An apparatus according to claim 12, ~~characterized in that~~ wherein the solid matter is solid fuel and that ~~at~~ the treatment process of the solid matter is a power boiler, where the solid matter is arranged to be combusted for producing energy.

22. (Currently Amended) An apparatus according to claim 12, ~~characterized in that~~ wherein the solid matter is rock, concrete and/or asphalt and that ~~at~~ the solid matter treatment process is a crushing, screening and/or mixing process.